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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,107	04/25/2006	Piotr Wilinski	FR 030132	1158
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EXAMINER HALLENBECK-HUBER, JEREMIAH CHARLES				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/577,107

Applicant(s)

WILINSKI ET AL.

Examiner

JEREMIAH C. HUBER

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s)/Mail Date ____

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 4 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 4 is directed to a data carrier bearing an encoded signal. An encoded video signal represents a mere arrangement of data that does not, in itself, impart a functionality when employed as a computer component. Thus claim 4 is directed to non-functional descriptive material which is non-statutory. See MPEP 2106.01. Claim 4 is further directed to a carrier, which may take the form of an electromagnetic signal (See Spec. page 10 lines 8-10). Electromagnetic signals fall outside of the statutory categories of invention and are therefore non-statutory. See MPEP 2106 (IV)(B) discussing *In re Nuijten*.

Claims 8-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 8 and 12 are directed to an encoder and decoder comprised of various means. Claims 11 and 15 indicate that such means may be implemented by a computer as software. Thus, claims 8 and 12 may be properly interpret as referring to software which is not embedded on a non-transitory computer readable medium. Therefore the claims are non-statutory. See MPEP 2106.01.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 7, 8, 10, 12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Trovato (6480538).

In regard to claim 1 Trovato discloses a method and apparatus for encoding a video signal including:

analyzing the images of the video signal to identify one or more image segments therein (Trovato Fig.1 and col. 3 line 52 to col. 4 line 31 note texture area recognizer 110 and texture quantizer 120);

identifying those segments which are substantially not of a spatially stochastic nature and encoding them in a deterministic manner to generate a first encoded

intermediate data (Trovato Fig. 1 and col. 5 lines 4-32 note image encoder 140 performs conventional deterministic encoding on non-texture portions);

identifying those segments which are of a substantially spatially stochastic nature and encoding them by way of one or more corresponding stochastic model parameters to generate second encoded intermediate data (Trovato Fig. 1 and col. 4 line 12 to col. 5 line 3 note texture area encoder 130 also note texture may be e.g. bricks (col. 4 lines 29-31) or woodgrain (col. 5 lines 38-42), further note col. 6 lines 44-61 texture may be described by an algorithm including a random noise pattern thus a stochastic model); and

merging the first and second intermediate data to generate the encoded video data (Trovato Fig. 1 note encoded image 155).

In regard to claim 3 refer to the statements made in the rejection of claim 1 above. Trovato further discloses

segments not of a substantially spatially stochastic nature are deterministically encoded using I, B and P frames, I frames describing texture components of the segments and B and P frames including information describing temporal motion of the segments (Trovato col. 5 lines 4-32 note image encoder 140 may be of the conventional MPEG type which encodes images using I, P and B frames); and

segments that are of a substantially spatially stochastic nature comprising texture components are encoded using model parameters, B frames and/ or P frames, the model parameters describing the texture of the segments and the B and/or P frames including information describing temporal motion of the one or more segments (Trovato

col. 4 lines 32-56 note texture area encoder generates an algorithm, or model, describing texture also note col. 5 lines 4-23 texture areas replaced with monochrome value then subjected to conventional encoding as B and/or P frames).

In regard to claim 4 refer to the statements made in the rejection of claim 1 above. Trovato further discloses a data carrier bearing the encoded video data (Trovato Fig. 1 note carrier indicated by line from encoded image 155 to decoder 240).

In regard to claims 8 and 10 refer to the statements made in the rejection of claims 1 and 3 above. Trovato further discloses analyzing means (Trovato Fig. 1 110-120), first identifying means (Trovato Fig. 1 140), second identifying means (Trovato Fig. 1 130) and data merging means.(Trovato Fig. 1 155).

In regard to claim 5 Trovato discloses a decoding method and apparatus including:

receiving encoded video data and identifying one or more segments therein (Trovato col. 5 lines 47-57 note decoder 240 identifies conventionally encoded segments, texture area decoder 230 identifies remaining segments);

identifying segments substantially not of a spatially stochastic nature and decoding them in a deterministic manner to generate first decoded intermediate data (Trovato col. 5 lines 47-57 note decoder 240 identifies and decodes conventionally encoded segments generating decoded output 245);

identifying those segments which are of a substantially spatially stochastic nature and decoding them by way of one or more stochastic models driven by model

parameters included in the encoded video data to generate second decoded intermediate data (Trovato generally Fig. 1 and col. 5 line 58 to col. 7 line 33 particularly note texture area decoder 230 and texture area generator 220 which identify texture segments and decode them according to one or more stochastic models (Col. 6 lines 44-61) and generate decoded output 222); and

merging the first and second intermediate data to generate a decoded video signal (Trovato Fig. 1 note combiner 210).

In regard to claim 7 refer to the statements made in the rejection of claim 5 above. Trovato further discloses

segments not of a substantially spatially stochastic nature are deterministically decoded using I, B and P frames, I frames describing texture components of the segments and B and P frames including information describing temporal motion of the segments (Trovato col. 5 lines 4-32 note image encoder 140 may be of the conventional MPEG type which encodes images using I, P and B frames further note col. 5 lines 47-57 decoder 240 decodes the conventionally encoded images); and

segments that are of a substantially spatially stochastic nature comprising texture components are decoded using model parameters, B frames and/ or P frames, the model parameters describing the texture of the segments and the B and/or P frames including information describing temporal motion of the one or more segments (Trovato col. 6 lines 44-61 note texture area decoder generates texture using an algorithm, or model, describing texture also note col. 5 lines 4-23 texture areas replaced with monochrome value then subjected to conventional encoding by encoder 140 as B

and/or P frames further note col. 5 lines 47-57 decoder 240 decodes the conventionally encoded images).

In regard to claims 12 and 14 refer to the statements made in the rejection of claims 5 and 7 above.

. Trovato further discloses analyzing means and first identifying means (Trovato Fig. 1 240), second identifying means (Trovato Fig. 1 230) and data merging means.(Trovato Fig. 1 210).

Claim Rejections - 35 USC § 103

Claims 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trovato.

In regard to claims 11, and 15 refer to the statements made in the rejection of claims 8 and 12 respectively. It is noted that Trovato does not explicitly disclose details of software implementation of encoding and decoding functions. However, the examiner takes official notice that at the time of the invention it was common and notoriously well known to implement encoding and decoding means as software. It is therefore considered obvious that one of ordinary skill in the art would recognize the advantage implementing the encoding and decoding functions of Trovato in software in order to gain the advantage of inexpensive and flexible encoding and decoding.

Claims 2, 6, 9 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Trovato in view of Jayant (2004/0114817).

In regard to claims 2, 6, 9, and 13 refer to the statements made in the rejection of claims 1, 5, 8 and 12 respectively. Trovato further discloses encoding segments which are of a substantially spatially stochastic nature using different encoding methods (Trovato col. 6 line 62 to col. 7 line 33 note encoded texture may vary with display resolution or relative depth of a textured object). It is noted that Trovato does not disclose details of an encoding method associate with motion of the spatially stochastic segment. However, Jayant suggests that the detail displayed for an image of a moving object may be less than that displayed for a static object without adversely affecting the perceived quality of the displayed image (Jayant par. 186 and 265 note a moving object may be coarsely quantized because the human visual system has difficulty resolving details of moving objects). It is therefore considered obvious that one of ordinary skill in the art at the time of the invention would recognize the advantage of including encoding methods adapted to moving and static objects as suggested by Jayant in addition to other image dependant encoding methods of Trovato in order to improve the compression efficiency of moving image segments.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dumitras discloses a method for texture replacement in video which over-writes texture portions of video images with similar textures that produce higher compression efficiency. Brinsmead discloses a method of generating hair texture using stochastic

models. Stam discloses a general method of generating natural phenomena using stochastic models. Martens discloses a method of encoding image regions using numerical models

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMIAH C. HUBER whose telephone number is (571)272-5248. The examiner can normally be reached on Mon-Fri 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeremiah C Huber
Examiner
Art Unit 2621

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